

DOCKET NO. MC1-8346

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Applicant: Andrew Mark Shaw  
Serial No.:  
Filed: herewith  
For: *Cavity Ring-Down Sensing Apparatus and Methods*  
Art Unit:  
Examiner:

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

1. Pursuant to 37 C.F.R. 1.97 and 1.98, and in compliance with 37 C.F.R. 1.56, the Office's attention is directed to the patents, publications and other information listed on the attached PTO-1449. A copy of each listed foreign patent document and other publication is enclosed. No U.S. Patents nor any published U.S. Patent Applications are enclosed.

Regarding any document, publication or other information for which a date is not given on the attached PTO-1449, Applicant(s) believe(s) the same may qualify as "prior" art to this application and should be treated accordingly, although Applicant(s) reserve(s) the right to contest the prior art status of any document, publication or information, should issue arise.

2. Regarding each listed document that is not in the English language, an English-language translation accompanies this Statement as indicated on the attached PTO-1449 or a concise explanation of the relevance of the document is set forth in the following document(s):

- (a) \_\_\_\_\_ Copy of each English language version of a search report indicating the degree of relevance found by the foreign office of each document being submitted from the search report.
- (b) \_\_\_\_\_ Attachment entitled "Concise Explanation of Relevance of Non-English Language Documents".

3. Pursuant to 37 C.F.R. 1.97(b) this Statement is being filed (one must be checked):

- (a) ☒ Within 3 months of the filing date or date of entry into the National Stage.
- (b) \_\_\_\_\_ Before the mailing date of a first Office Action on the merits. If this Statement is not filed before the mailing date of a first Office Action on the merits, the required certification is given below or, in the absence thereof, the Office is authorized to charge the required fee set forth in 37 C.F.R. 1.17(p) to Deposit Account No. 20-0090 for consideration of this Statement.

(c) \_\_\_\_\_ After the period set forth in 37 C.F.R. 1.97(b) but before the mailing date of either a final action or a notice of allowance.

(1) \_\_\_\_\_ The required certification is given below, or

(2) \_\_\_\_\_ Enclosed is a check covering the fee set forth in 37 C.F.R. 1.17(p) for consideration of this Statement, or

(3) \_\_\_\_\_ Charge the fee set forth in 37 C.F.R. 1.17(p) to Deposit Account No. 20-0090.

(d) \_\_\_\_\_ After the mailing date of either a final action or a notice of allowance, but before payment of the issue fee. Petition hereby is made for consideration of this Statement and the required certification is indicated below.

(1) \_\_\_\_\_ Enclosed is a check covering the fee set forth in 37 C.F.R. 1.17(i)(1), or

(2) \_\_\_\_\_ Charge the fee set forth in 37 C.F.R. 1.17(i)(1) to Deposit Account No. 20-0090.

4. Certification (if applicable)

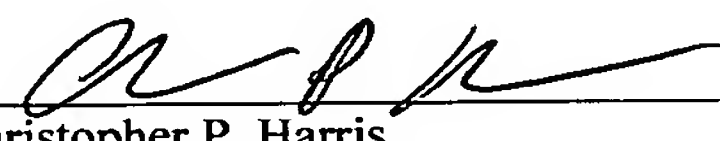
(a) \_\_\_\_\_ The undersigned hereby certifies that each item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than 3 months prior to the filing of this Statement.

(b) \_\_\_\_\_ The undersigned hereby certifies that no item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the undersigned's knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. 1.56(c) more than 3 months prior to the filing of this Statement.

5. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-0090.

Respectfully Submitted,

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By:   
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| Substitute for form 1449/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>(Use as many sheets as necessary) |   |    |   | <b>Complete if Known</b> |          |
|   |   |    |   | Application Number       |          |
|   |   |    |   | Filing Date              |          |
|   |   |    |   | First Named Inventor     |          |
|   |   |    |   | Art Unit                 |          |
|   |   |    |   | Examiner Name            |          |
| Sheet   | 1 | of | 1 | Attorney Docket Number   | MC1-8346 |

| U.S. PATENT DOCUMENTS |                       |   |                                |   |   |
|-----------------------|-----------------------|---|--------------------------------|---|---|
| Examiner Initials     | Cite No. <sup>1</sup> | Document Number<br>Number-Kind Code <sup>2</sup> (if Known) | Publication Date<br>MM-DD-YYYY | Name Of Patentee Or Applicant Of Cited Document | Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear |
|                       |                       | US-5,835,231 A  | 11-10-1998                     | Pipino, et al.                                  | Fig. 1  |
|                       |                       | US-2003/007715  | 01-09-2003                     | Loock Hans-Peter et al.                         | Figs. 1-4   |

| FOREIGN PATENT DOCUMENTS |                       |  |                                |   |   |                |
|--------------------------|-----------------------|--|--------------------------------|---|---|----------------|
| Examiner Initials        | Cite No. <sup>1</sup> | Foreign Patent Document<br>Country Code-Number-Kind Code<br>(If Known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T <sup>6</sup> |
|                          |                       | EP 1 195 582 A   | 04-10-2002                     | Eidgenoessische Technische Hochschule Zuerich   | Figs. 1-10  |                |
|                          |                       | WO 03/106942 A   | 12-24-2003                     | Trustees of Princeton University                | Fig. 4  |                |

| NON PATENT LITERATURE DOCUMENTS |                       |  |                |
|---------------------------------|-----------------------|--|----------------|
| Examiner Initials               | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published                              | T <sup>2</sup> |
|                                 |                       | International Search Report for corre. PCT/GB2005/050036 completed May 25, 2005 by W> Mason of the EPO   |                |
|                                 |                       | VON LERBER T ET AL: <i>Cavity-Ring-Down Principle for Fiber-Optic Resonators: Experimental Realization of Bending Loss and Evanescent-Field Sensing</i> ; Applied Optics OPT. SOC. America USA, vol. 41, no. 18, 20 June 2002, pages 3567-3575, CP002329473; ISSN: 0003-6935; Fig. 1       |                |
|                                 |                       | VON LERBER T ET AL: <i>Time Constant Extraction from Noisy Cavity Ring-Down Signals</i> ; Chemical Physics Letters Elsevier Netherlands, vol. 353, no. 1-2, 13 February 2002, pages 131-137, XP002329474, ISSN: 0009-2614; Fig. 2  |                |
|                                 |                       | WHITENETT G ET AL: <i>Optical Fibre Instrumentation for Environmental Monitoring Applications</i> ; Journal of Optics A: Pure and Applied Optics IOP Publishing UK, vol. 5, no. 5, September 2003, pages S140-S145, XP002329476, ISSN: 1464-4258; Fig. 6                                   |                |
|                                 |                       | PIPINO A C R ET AL: <i>Surface-Plasmon-Resonance-Enhanced Cavity Ring-Down Detection</i> ; Journal of Chemical Physics, New York, NY, US, vol. 120, no. 3, 15 January 2004, pages 1585-1593, XP009037844, ISSN: 0021-9606; Fig. 1  |                |
|                                 |                       | PIPINO A C R: <i>Evanescent Wave Cavity Ring-Down Spectroscopy for Ultra-Sensitive Chemical Detection</i> ; Proceedings of the SPIE - The International Society for Optical Engineering SPIE-INT. SOC. OPT. ENG USA, col. 3535, 1999, pages 57-67, XP002329477, ISSN: 0277-786X; Figs. 2,3 |                |

|                    |                 |
|--------------------|-----------------|
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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